

## Deputy Secretary of Defense Signs and Releases Revised Department of Defense Directive 3200.11

Deputy Secretary of Defense John J. Hamre on January 26, 1998, approved and signed the reissued DoDD 3200.11, "Major Range and Test Facility Base (MRTFB).

The reissued DoDD 3200.11 clarifies user charge definitions and makes them consistent with currently approved practices. It also updates the Directive to be consistent with the organizational changes that have occurred within the Office of the Secretary of Defense and the MRTFB since the eighties.

The reissued DoDD 3200.11 is the first "paperless" Directive to be issued by DoD. **Mr. Derrick Hinton** was the Resources and Ranges Action Officer. To obtain an electronic version go to the Publications and Documents located on the DTSE&E web site. (<http://www.acq.osd.mil/te/pubdocs>).

## Mr. Richard Ledesma, Deputy Director of Systems Assessment Retires.

**Mr. Richard Ledesma**, Deputy Director, Test, Systems Engineering and Evaluation/Systems Assessment, has retired from Federal Civil Service after 29 years of service. Mr. Ledesma was presented the Secretary of Defense Meritorious Civilian Service Award by **Dr. Patricia Sanders**, the Director of Test, Systems Engineering and Evaluation, during a January 8, 1998, retirement ceremony held at the Navy Museum located on the Washington Navy Yard, Washington, DC.

## Mr. David R. Oliver, Jr., Confirmed as the Principal Deputy Under Secretary of Defense for Acquisition and Technology

**Mr. David R. Oliver, Jr.**, on May 22, 1998, was confirmed by the United States Senate as the new Principal Deputy Under Secretary of Defense for Acquisition and Technology. Mr. Oliver succeeds **Mr. R. Noel Longuemare** who departed the position in November 1997.

Mr. Oliver, before his appointment was the Director of Business Development and Technology for Naval Systems, Northrop Grumman Electronic Sensors and Systems Division. In 1995, Mr. Oliver retired from the United States Navy with the rank of Rear Admiral (Upper Half). At the time of his retirement he was serving as the Principal Deputy to the Assistant Secretary of the Navy for Research, Development and Acquisition.

During the interim period between the departure of Mr. Longuemare, and the appointment of Mr. Oliver, the Honorable **Joseph J. Eash III** served as the Acting Principal Deputy.

The Principal Deputy Under Secretary of Defense for Acquisition and Technology serves as the second ranking acquisition official for the Department of Defense.



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## Director's Corner



**Mr. John Gehrig**

I would like to take this opportunity to congratulate Dr. John Foulkes and Mr. Jack Manclark on their recent appointments. John is now the new Director of the Army's Test and Evaluation Management Agency and Jack succeeds Lieutenant General Howard Leaf, USAF (retired) as the new Director of Air Force Test and Evaluation. In a personal vein, and from an OSD perspective, I look forward to working with these individuals in making the MRTFB stronger in the future. Likewise within the Office of the Director for Test, Systems Engineering and Evaluation, we and the MRTFB community, have also lost the very able services of Mr. Richard "Dick" Ledesma, who retired on January 2, 1998 as the former Deputy Director for Systems Assessment. On behalf of the community I would like to take this opportunity to wish both Dick and Howard the best in their future endeavors. Their leadership, counsel and advice have always been on-target and in the best interest of the RDT&E community.

The recently reissued DoDD 3200.11, dated January 26, 1998, clarifies the uniform funding policies for the MRTFB. Although we have reissued DoDD 3200.11, this does not mean that the work stops and all is well. We must continue to refine and make maximum usage of our T&E capabilities as we plan for future RDT&E needs and requirements. I encourage the members of the community to take every opportunity to work closely with the private sector and academia during the formulation of these plans. We must utilize every vehicle available to us to ensure that these sectors become stakeholders in the future of the MRTFB.

The Section 912 issue continues to force us to take a hard look at how we will structure and conduct future T&E within the community. Section 912 of the National Defense Authorization Act for Fiscal Year 1998 directed the Secretary of Defense to submit to Congress an implementation plan to streamline the acquisition organization, workforce and infrastructure. The required report was forwarded to Congress on April 1, 1998. The Secretary, in his report to Congress, emphasized the need for the Congress and DoD to work together in creating an acquisition infrastructure that allows DoD to buy products and services faster, better, and cheaper so that the warfighter has what is needed to do the job assigned.

I have formed a team composed of former MRTFB Technical Directors and comptrollers to assist me in addressing the Section 912 issues. I intend to capitalize on their past experience as we prepare to transition the MRTFB into the next century. We must continue to get the maximum usage of our dollars. Jointness is essential to the well being of T&E. We must learn from the laboratories, the users and the trainers.

I want to personally extend my best wishes to Irv Boyles and Rich Pace upon their retirement from Federal Civil Service. These men have done much to foster the ideals and goals of the test and evaluation community, and I already miss them greatly. I know that they will stay active in the T&E profession.

## Around the Staff

### **Mr. Irv Boyles and Mr. Rich Pace Retire from Federal Civil Service**

**Mr. Irv Boyles and Mr. Rich Pace**, former Assistant Deputy Directors in the Office of the Director, Test, Systems Engineering and Evaluation/Resources and Ranges, retired from Federal Civil Service on March 27, 1998.

Mr. Boyles retired with 34 years of Service. As the Assistant Deputy Director for Plans and Policy, Mr. Boyles was responsible to the Deputy Director for Resources and Ranges for the oversight of the T&E Project Reliance, long range investment and consolidation planning, T&E Corporate Information Management/Enterprise Integration, and the Defense Acquisition Workforce Improvement Act for the T&E career field among the military Departments and Defense agencies. Mr. Boyles is the Vice President of the George Washington Chapter of the International Test and Evaluation Association. He is also a member of the Military Operations Research Society, the Defense Systems Management College Alumni Association, and the Association of Old Crows.

Mr. Pace, who retired after 28 years of Service, was the Assistant Deputy Director for Investment Programs. During his tenure in the Resources and Ranges Office, Mr. Pace was responsible for the oversight of the execution of all projects within the Central Test and Evaluation Investment Program

(CTEIP). Mr. Pace was also responsible for the development of all documentation to support the President's Budget submission, the POM review, and congressional inquiries as they pertained to the CTEIP program. Mr. Pace is the East Region Vice President for the International Test and Evaluation Association. He is also a member of the Institute of Electrical Engineers and the Society of Engineers and Scientists. Mr. Boyles and Mr. Pace received the Defense Meritorious Service Medal for their outstanding Federal Civil Service.

We wish both Mr. Boyles and Mr. Pace the best in their future endeavors.



**Mr. Irv Boyles**



**Mr. Rich Pace**

**Mr. Bill Meyer** and **Mr. Garon C. Harris** are the newest RTAs assigned to the Office of the Director, Test, Systems Engineering and Evaluation/Resources and Ranges. Mr. Meyer will be focusing on Process Reengineering, Consolidation Initiatives and formation of National Alliances. Before his rotational assignment, Mr. Meyer was the Director of Range Support at Yuma Proving Ground, AZ. Mr. Harris will be working with Mr. Meyer on the Consolidation Initiatives. Mr. Harris is from the Naval Air Warfare Center - Weapons Division, China Lake. Mr. Harris was a Project Engineer for Threat Systems.

**Major Bill Reed**, USAF, a former RTA with the RR Office has retired from active duty. Bill will be staying in the Washington, DC area. Best wishes to Bill upon his retirement. Also, congratulations to **Mr. Bob McGowan** a former RTA in the RR Office. Bob has been reassigned from the Office of the Army's Director for Smart Munitions, Redstone Arsenal, AL to Eglin AFB, FL, where he will be the Army Deputy Director for the Joint Project Chicken Little. Bob's new telephone number is (850) 882-9131. Bob's e-mail address at the Joint Project Chicken Little office is [mcgowanr@eglin.af.mil](mailto:mcgowanr@eglin.af.mil).

## **Mr. John T. Manclark New Director, Air Force Test and Evaluation**

**Mr. John T. Manclark**, on January 2, 1998, was named as the new Director, Air Force Test and Evaluation in the Office of the Chief of Staff, United States Air Force (USAF). Mr. Manclark succeeds **Lieutenant General Howard**

**W. Leaf**, USAF (Retired), who retired from Federal Service on December 31, 1997. Mr. Manclark prior to his appointment served as the Deputy Director, Air Force Test and Evaluation.

## **New Commander brings Fresh Outlook to Alaska Test Center**

**Lieutenant Colonel Mary Brown** recently reached that milestone many individuals in the military strive for - 20 years of active service.

During her career she has served in numerous interesting assignments, first working in a maintenance shop as a 2<sup>nd</sup> Lieutenant and later focusing her efforts in the contracting field. Most recently, she served as military assistant to the former Secretary of the Army Togo West in the Pentagon. This past August she assumed command of Yuma Proving Ground's Cold Regions Test Center (CRTC), located at Fort Greely, Alaska.

"I had learned from **Lieutenant Colonel Gary Payne**, my predecessor, of the hard working folks and the versatility of CRTC," stated Lieutenant Colonel Brown. "This became apparent to me immediately."

Lieutenant Colonel Brown resides in quarters at Fort Greely, which is about five miles from the small town of Delta Junction where the majority of CRTC's civilian work force lives. She is married, but her husband, also an Army officer, lives in Florida. "He has the cat and I have the two dogs," she remarked.

Delta Junction is a town of about 800 people," she said, "with small stores and several restaurants. It's the kind of place where everyone knows each other, which makes it nice. Fairbanks is the nearest large city, about 100 miles away." The population of Fairbanks, Alaska's third most populous city, is 32,000.

The Cold Regions Test Center was a bustling place this past summer, with plenty of artillery firing taking place in support of the Sense and Destroy Armor (SADARM) project. All in all, CRTC's firing range was busier this summer than during the normal summer. The test facility's busiest time, however, is during the bitter cold weather months, where temperatures plunge down to far below zero Fahrenheit.

The test center has an authorized work force of 35 civilian and 17 military personnel, which represents a dramatic decline from just a few years ago. Though the civilian strength level has remained relatively steady, the military numbers were almost four times higher in 1992. Based on authorized reductions, these numbers could easily change in future years.

"We test just about everything here," said Lieutenant Colonel Brown as she described CRTC's workload. "If something needs to be tested in cold temperature conditions, from hats to helicopters, we do it. I'm really lucky to have such an experienced workforce."



"Not everyone appreciates how cruel cold weather can be unless they experience it," she said. "If you aren't properly dressed, frostbite can happen very quickly. Also, vehicle and equipment operation are more challenging. Starting a vehicle is more difficult, since engine oil thickens in the cold. Parts, such as those made of rubber, become brittle and break easier. Slick, icy roads can make driving a serious problem."



**Lieutenant Colonel Mary Brown (Left), the new Commander of the Army's Cold Regions Test Center in Fort Greely, AK, meets with Lieutenant Colonel Mark Neumann, Yuma Proving Ground's Director of Materiel Test. (Photo by YPG PAO)**

The temperature plunged to 22 degrees below zero in late October when **General Johnnie Wilson**, Commander, Army Materiel Command visited CRTC. After his departure the temperature warmed to the low 30's. However, by mid-winter the temperature will plummet to 60 degrees below zero. December and January tend to be the coldest months.

One of Lieutenant Colonel Brown's main goals is to look beyond the CRTC of today. She would like to expand the facility's customer base, even taking on test projects for private industry. Her intention is to ensure that the test center remains a healthy organization, positioned to meet the challenges of this difficult budgetary time and those of the future.

"I'd like to thank the folks at Yuma Proving Ground for their assistance during my recent visit," she remarked. "We're all part of the same team and I look forward to working with everyone."

"I'm a strong believer in the importance of environmental testing. It's critical to the warfighter and our nation that we produce only the highest quality of military equipment."

For more information about this article and the Army's Cold Region Test Center contact **Mr. Chuck Wullenjohn**,

Chief, Public Affairs Office, Yuma Proving Ground, Yuma, AZ 85365. Telephone (520) 328-6189 [DSN 899-]. E-mail address [cwullenj@yuma-emh1.army.mil](mailto:cwullenj@yuma-emh1.army.mil).

## **Dr. John B. Foulkes named as the new Director of the United States Army's Test and Evaluation Management Agency (TEMA)**

On January 5, 1998, **Dr. John B. Foulkes** was promoted to the Senior Executive Service and named as the new Director of the United States Army's Test and Evaluation Management Agency in the Office of the Chief of Staff, United States Army. Dr. Foulkes succeeds **Mr. John Gehrig** who is now the Deputy Director, Test, Systems Engineering and Evaluation for Resources and Ranges. Dr. Foulkes prior to his selection was the Chief of the Policy Division, TEMA. **Mr. Fred McCoy**, formerly of the US Army Operational Test and Evaluation Command, succeeds Dr. Foulkes as the new Chief of the Policy Division, TEMA. **Mr. Ray Wagner** is TEMA's Division Chief for Resources.

## **AEDC Modifies Generic Telemetry Unit to support Army Helicopter testing.**

Modified from a 16-channel to a 32-channel unit, the AEDC based Generic Telemetry Unit (GTU) provided support for flight testing of an Army UH-60 Black Hawk helicopter based at the Army's Aviation Center at Fort Rucker, AL. The GTU was attached to the main rotor of the helicopter to gather data and demonstrate capability in a typical flight environment for the Army Aviation Technical Test Center (ATTC).

Specifically designed for ATTC, this version of the GTU consists of four, eight-channel blocks instead of a single 16-channel block. This allows for more data to be obtained. Sverdrup employees, **Mr. Greg Walker** and **Mr. Calvin Banks**, electronic design, **Mr. John Jones**, programmer, and **Mr. Dwayne Bailey**, fabrication specialist, designed and constructed the unit. Adjustments were made to maintain programmed parameters during power off conditions, prolong the life of the system's battery and reduce the amount of time required for pretest set-up.

Another change concerning the battery was increasing the capacity of its raw power supply by enlarging the battery package to include 12 nine-volt lithium manganese cells. The capacity of the 16-channel GTU was six nine-volt lithium manganese cells.

Like its predecessor, the unit provided to ATTC is software configurable. According to Mr. Walker, the generic

software package was upgraded to include new capabilities of per channel anti-aliasing filters, setting the balance of a strain gauge, initiating a gage calibration, reading or writing to the electrically erasable programmable read only memory (EEPROM) and power on/off to selected modules for battery conservation. The receiver for the GTU was also modified to provide an Inter-range Instrumentation Group (IRIG) 106 compatible data stream for recording at ATTC. "The system performed very well and everyone was quite pleased," Mr. Walker said.

Unfortunately, problems with the helicopter's number one hydraulic pump prevented acquiring actual flight data during this test. The only data obtained was provided by the first aborted engine start up. Continuation of the test is scheduled to begin in May 1998 at Fort Rucker, AL.

For more information about this article and the Arnold Engineering Development Center (AEDC) contact **Ms. Danette Duncan**, AEDC Public Affairs Office, Arnold AFB, TN 37389-2213. Telephone (615) 454-5586 [DSN 340-]. E-mail: <http://www.arnold.af.mil>.

## **Naval Air Warfare Center Aircraft Division (NAWCAD) Adds Diesel-Electric Submarine to Test Inventory**

The NAWCAD Detachment Key West has added another research vessel to its present fleet of seven vessels. This one, however, will prove to be the most unique of the vessels the Detachment has acquired and operated.

The ex-USS **Trout**, SS566, a post-World War II diesel-electric submarine was operated as recently as 1979 by the United States Navy so as to prepare it for transfer to Iran. Before this could take place, however, diplomatic relationships broke down between the United States and Iran. The vessel lay at the Inactive Ships facilities in the Philadelphia Naval Shipyard while legal and diplomatic entanglements were resolved.

The ex-USS **Trout** was built in the 1950's, and incorporated many of the design features of the German Type XXI design developed late in World War II. This design was also obtained by the Former Soviet Union and used to develop several classes of submarines, which they have since sold to emerging third world countries. This design and its evolution represent the most numerous submarine type operated throughout the world.

This vessel was acquired by the Detachment for use as an underwater acoustic target for Anti-Submarine Warfare (ASW) research and development, operational testing, and training

requirements for the US Navy. The Navy's ASW mission emphasizes the need to detect smaller and quieter (on battery power) submarines. With the acquisition of this vessel, the Detachment in Key West will be able to serve as one of the primary providers for these services.

The operational concepts call for the vessel to be manned while on the surface, driven out to the test area using the diesel engines, then switching to battery power and securing systems for diving. The crew will be taken off to the mother ship, and the vessel will then be operated as a remote controlled submarine, under the control by the mother ship to perform the required mission.

The addition of the ex-USS **Trout** to the Detachment Key West fleet of vessels, brings back to Key West a part of its heritage as a submarine base, when Naval presence was at a higher level. Many residents today remember when the submarines were based at Truman Annex, and some will even recall serving aboard those boats.

Key West is an ideal location for the operation of the vessel as a variety of water depths, acoustic conditions, ambient noise and subsurface currents are available in the vicinity, and the weather rarely causes test delays. The NAWCAD Detachment has highly regarded research vessels and personnel, and the nearby Naval Air Station (NAS) Key West provides support for deployed aircraft. This asset will bring a much needed capability to the Navy's test resource inventory.

For more information about this article and the Naval Air Warfare Center - Aircraft Division Detachment Key West, FL contact **Mr. Lawrence Coar**, the Director of the NAWCAD Detachment Key West FL at (305) 293-4343 [DSN 483-]. For information about the Naval Air Warfare Center - Aircraft Division contact **Ms. Heather Herod**, Public Affairs Specialist, NAWCAD Business Development Office, Naval Air Station, Patuxent River, MD 20670. Telephone: (301) 342-1133 [DSN 326-].

## **White Sands Missile Range (WSMR) Expansion and Future Technology**

A new National Range Control Center (NRCC), replacing the existing Range Control Center is under construction at White Sands Missile Range (WSMR), NM.

The new NRCC will be a 108,000 square-foot, two-story, state-of-the-art building with all the real-time support functions under one roof. The building will have the Test Support Network Control system, Range Control, Project Control, Telemetry Control, Optics Control, Radar Control, Drone Control, Air Space Surveillance, Video Relay, Timing, Meteorology, and Flight Safety Command Control/Flight Termination System.

The Ft. Worth Corps of Engineers is administering the design/build contract with Sverdrup Facilities of Costa Mesa, CA. Sverdrup expects to complete the project in January 1999 when WSMR will begin the installation of the communications system and transfer of the existing test support systems from the current Range Control Center to the NRCC.

A prominent feature of the NRCC includes an 8,600 square-foot Customer Service Area (CSA). The CSA provides an area immediately adjacent to the secured technical area of the NRCC where the WSMR engineers and technicians interface and conduct business with their customers. It is a place where WSMR and customers can have presentations, lectures, and static displays while not causing any interruption or interference in the secured area. The CSA also offers a place where the customers can conduct their business in a private atmosphere.

Benefits to WSMR customers derived from the NRCC include improved ability to run multiple missions simultaneously, improved isolation between missions running concurrently, and reduced operations and maintenance costs derived from workstations vs. mainframes.

Three of the National Range Development Directorate's most significant undertakings are the **Smart Munitions Test Suite (SMTS)**, the **High Performance Computing Initiative (HPCI)**, and the **Combat Synthetic Training Assessment Range (CSTAR)**.

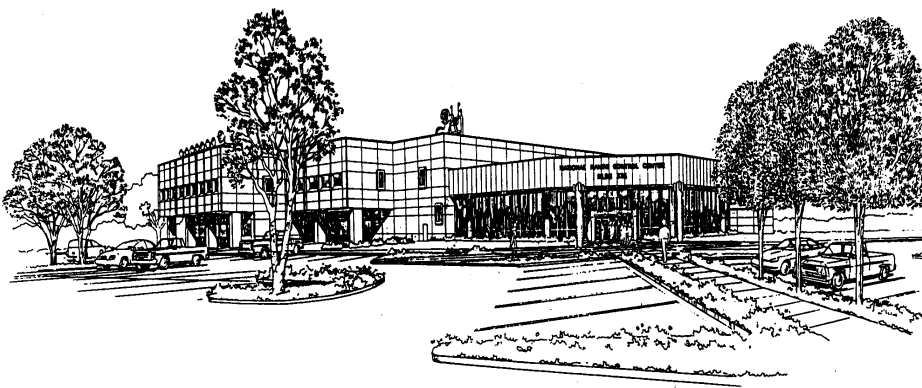
Now at the conclusion of a 5-year development, the High Performance Computing Initiative is a mobile suite of instrumentation that can be configured rapidly to support a broad range of tri-service test missions involving the tracking and data acquisition of multiple, fast moving objects at both low and high altitude. It is capable of simultaneously

submunitions from a carrier vehicle disbursement to multiple impact. Key components of the SMTS are the Master Control Van (MCV) and the Data Acquisition and Analysis Van (DAAV), and two configurations of optical tracking mounts. The MCV provides for both real-time control and pointing of all SMTS tracking mounts as well as pre-mission modeling of the test scenario via a 3-D geographic constructive simulation. This allows pre-mission simulations to be conducted repeatedly to plan test-day mount placement, review of test item simulations and system checkout. Key features of the MCV include the ability to control 8 tracking mounts simultaneously, a T-1 digital data link to a separate 40 object C-band phased array radar, a real-time constructive simulation of the conduct of the mission (including display of all radar track files, tracking mount assets and their particular sensors) all overlaid on digital terrain data with geographic registered imagery.

The SMTS tracking mounts are complimented with both Infra-red and visible, high density, high frame rate focal plane staring arrays that produce both analog and digital video, and the two remaining SMTS tracking mounts feature 5m and 2.5m focal length optics that are coupled to 70-mm film cameras for high magnification images of the test. The DAAV provides the capability to receive video feeds via microwave from the MCV and to perform extremely fast, real-time image processing functions as well as a post test data reduction capability of radar, Global Positioning System (GPS) or other sensor input.

The primary thrust of the **HPCI** is to create and enhance, largely from commercial products, a high performance computing center for the exploration and development of advanced simulation test-beds. It will incorporate real-time data streams generated through computations and acquired from sensor input during systems testing. HPCI applications include real-time "machine vision" for identification, classification and sorting, real-time fusion of high-bandwidth data streams acquired from multiple sensor sources during live systems testing, real-time injection of live and virtual entities to support development and testing of new and advanced Distributed Interactive Simulations (DIS) architectures, and development of an innovative architectural test-bed for both advanced combat identification and automated battle management systems.

The Combat Synthetic Training Assessment Range is a joint effort product of White Sands Missile Range (WSMR), the Simulation, Training, and Instrumentation Command (STRICOM), the Battle Command Battle Labs (BCBL), the National Training Center (NTC), and the Army's Training and Doctrine Command (TRADOC). Comprised of several networked



## The new National Range Control Center under construction.

identifying, classifying, tracking and recording up to 40 objects of interest from a debris filled sky during live system tests with a combination of phased-array radar and optical instrumentation systems. The SMTS enables the user to capture comprehensive test data on multiple dispensed smart

computers and displays, CSTAR displays to the soldier trainee information of the digitized battle space. These messages originate from both live, instrumented forces and virtual forces created by computers as part of the exercise scenario, so the soldier trainee is exposed to the computer hardware, the visual displays, and the battle exercise doctrine. A virtual battlefield comprised of both live and virtual entities was created at NTC. CSTAR received information from the live forces conducting maneuvers at Ft. Irwin and provided this information to a Joint Surveillance and Target Attack Radar System (JSTARS) and an Unmanned Aerial Vehicle (UAV) reconnaissance simulator. The virtual ground space and virtual entities such as tanks, vehicles, and troops were also extended into a virtual realm with the JANUS computer, developed by TRADOC-WSMR. The JSTARS and UAV simulators received both real and virtual ground truth information, and in turn the JSTARS produced a Moving Target Indicator (MTI) and the UAV simulator rendered a graphical display of what the onboard camera was viewing. This information was processed and displayed via computer displays on a system called the All Source Analysis System (ASAS) to both the Division and Brigade tactical operations centers. Providing an "all seeing eye" capability of the battle space, it assisted the military leaders in making the right choices to win decisively and with minimal attrition.

Indeed, WSMR strives to be a "Center of Excellence" for future developments in new computational frontiers such as the Integrated Modeling and Test Environments (IMT) and the cost effective integration of developmental testing, operational testing, and training under the Department of Defense (DoD) Virtual Test and Training Range (VTTR) program and the TECOM Virtual Proving Ground (VPG) program. WSMR has been designated as the Army's first High Performance Computing Distributed Center (HPC DC) for Test and Evaluation, and will directly benefit the warfighter in three key areas: Developmental Test and Evaluation (DT&E), Research and Development (R&D), and Simulation and Training (S&T). As a result of advanced testing of systems, the warfighter will have more accurate and reliable weapons. The cost savings will be significant throughout the life cycle of weapon systems because they will be exercised in real scenarios under the best simulated conditions, instead of expensive, time consuming, resource intensive field tests currently used to exercise soldiers, equipment and weapon system performance.

For more information about this article and White Sands Missile Range contact **Mr. Greg Villaseñor**, STEWS-NRD-TS, Building 1506, Room 231, WSMR, NM 88002. Telephone (505) 678-1097.

**MRTFB Member**  
**Aberdeen Test Center helps**  
**Maryland State Police**  
**crack down on aggressive drivers**

Are you an aggressive driver? If so, keep reading! Aberdeen Test Center has been working with the Federal Highway Administration and Maryland State Police since August 1996 to develop a prototype aggressive driver imaging system to identify aggressive drivers who threaten the lives of individuals traveling on Washington's Capital Beltway.

**Captain Greg Shipley**, Commander of the Maryland State Police Public Affairs Office, said a number of traffic accidents caused by aggressive driving have occurred in the state and around the country during the past two years. "The issue of aggressive driving has now caught the attention of traffic, police and government officials at the local, state, and federal levels," he said. "A recent AAA survey showed that the number one concern of motorists was not the drunk driver, but the aggressive driver."

Maryland State Police Superintendent **Colonel David B. Mitchell**, said aggressive driving includes following too closely, changing lanes unsafely, failing to yield right-of-way, speeding, and negligent or reckless driving. "The time has come for the Maryland State Police to lead the way in new traffic safety and enforcement initiatives," he said.

The technology transfer initiative, which began in August 1996 with representatives of ATC and the Federal Highway Administration, the Maryland State Highway Administration and the Maryland State Police, is called "**Project ADVANCE**" - **Aggressive Driving Video and Non-Contact Enforcement**.

A key part of the initiative is a prototype developed by ATC engineers - the "**Aggressive Driver Imaging System (ADIS)**." "The ADIS is a computer-controlled system that employs two laser devices for detecting speed and distance, and three video cameras for imaging," said **Mr. Mike Zwiebel**, ATC's instrumentation development leader. "These devices are all mounted inside of a Maryland State Police vehicle." ADIS detects a traffic violator, records a digital image and video clip of the approaching vehicle, records several side-view images as the vehicle passes, and records several rear-view images after the vehicle passes," he said. "The side-view images are used to determine a commercial truck's Department of Transportation Motor Carrier numbers," Mr. Zwiebel said. "The rear-view images are used to determine a car or truck license tag number."

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ADIS stores the video clip, digital images and vehicle speed in a computer. Captain Shipley said when an ADIS operator has concluded monitoring, the trooper reviews the acquired images and uses existing database systems to identify vehicle registration or motor-carrier identification of violators.

"The vehicle owner will receive a letter of warning and a set of photographs showing the violating vehicle and listing of traffic violations," Captain Shipley said. "Citations will not be issued by mail since Maryland police don't have statutory authority to do this except at certain traffic intersections with red lights." He noted that the only time citations would be issued is when ADIS is operated in coordination with a nearby Maryland State Police "Stopping Team."



**Corporal Janet Harrison of the Maryland State Police reviews traffic violations committed by aggressive drivers on the Aggressive Driver Imaging System developed by an ATC Team. (Photo by Dave Roberts, Int'l Imaging Center, APG, MD.)**

"The ADIS operator would notify the Stopping Team of the approaching violator," he said. "A member of the Stopping Team would stop the violator and issue the citation, based on the testimony of the ADIS operator who witnessed the violation and saw the Stopping Team member stop the correct vehicle."

Mr. Zwiebel said advantages include mobility, operation by only one trooper, reduction in the risk to troopers by eliminating the need for Stopping Teams on dangerous interstates like the Capital Beltway, reduction in traffic congestion by eliminating roadside traffic stops, and providing a record of the violation in both still and video photography. "The Maryland State Police will be conducting a formal study over the next year to evaluate the effectiveness of this technology as a tool in reducing the occurrence of aggressive driving on the Capital Beltway," Mr. Zwiebel added.

Maryland State Police officials said aggressive driving kills, and noted that Maryland roads will be safer thanks to this advanced law enforcement technology provided with the help of ATC personnel and expertise.

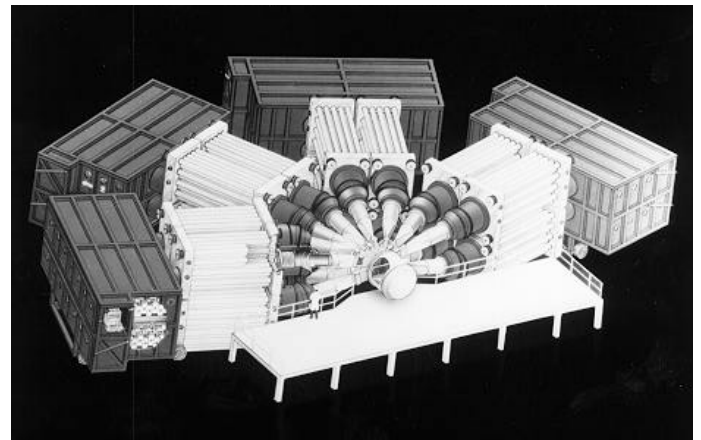
For more information about this article and the Aberdeen Test Center contact **Ms. Lena Goodman**, ATC Public Affairs Office, Aberdeen Proving Ground, MD 21005-5059. Telephone (410) 278-4223 / Fax (410) 278-4046 [DSN 298-]. E-mail: [Lgoodma@atc.army.mil](mailto:Lgoodma@atc.army.mil).

## **Arnold Engineering Development Center (AEDC) begins new era of Ground Simulation Testing**

Arnold Engineering Development Center's new DECADE facility recently thrust the center into a new and different type of ground simulation capability – nuclear weapons effects testing.

**Mr. Ken Brandon**, Air Force Program Manager (PM), said he is excited about the new facility and the challenges associated with implementing a new test mission at AEDC. "Once the first quad is complete, there are plans to build a second quad, add other simulators, and perform modifications to permit several operational modes," Mr. Brandon said. "The DECADE team is working together to provide the nation's premiere nuclear weapons effects test capability at the lowest possible cost to the customer. When completed, DECADE will be a world-class, one-of-a-kind, multiple radiation environment simulation facility that will partially replace the critical capability lost when underground nuclear testing was eliminated."

Construction on the facility began in 1993 with funding provided by the Defense Special Weapons Agency (DSWA). In 1996, workers completed the building to house the simulator and personnel, and most of the simulator components were delivered.



**Assembling one quad of AEDC's DECADE simulator should be completed by May of 1999. Once complete, DECADE will provide data on things like how nuclear explosions in outer space would affect sensitive optical and electronic equipment like satellites.**

Assembly of the first DECADE quad (1/4 of the full DECADE simulator) began in early January with completion projected for May 1999. Once complete, the facility will simulate the X-ray portion of a nuclear explosion within a



highly shielded test cell during a test lasting approximately 40 nanoseconds or about the time it takes for light to travel across a large room. That's faster than the blink of an eye.

Through simulation testing, DECADE will provide data on how a nuclear explosion in outer space would affect sensitive optical and electronic equipment such as satellites used for communication, navigation, surveillance or tracking systems. This simulation is accomplished using the DECADE X-ray simulator which consists of large capacitor banks filled with insulating oil, transfer capacitors, magnetically insulated transmission lines and a diode.

During a test, the capacitors are fully charged with electricity, similar to charging a battery. When they are fully charged, the electricity is discharged generating X-rays that are pulsed toward a test article, such as a satellite circuit or missile subsystem. These X-ray pulses simulate those produced during a nuclear explosion in outer space. As the rays reach the target, sensors mounted on the test article gather data on how the components react to the rays.

There may be misunderstandings in the community and around AEDC that high levels of radiation could escape the facility and make folks glow in the dark. But going to the dentist or just living in Tennessee exposes one to more radiation than if you stood against the outside of the protective test cell wall, according **Dr. Larry Christensen**, a plasma physicist at AEDC leading the DECADE technology effort.

"If a person standing just outside the test cell wall were exposed to a typical year's worth of testing, they would receive only 35 mREM of radiation. (A mREM is a unit of radiation)," Dr. Christensen said. "Just by living in Tennessee a person receives 200 mREM of naturally occurring radiation a year. This facility was built to exceed the stringent requirements of the Nuclear Regulatory Commission. It is totally safe."

Dr. Christensen also said no radioactive materials are stored at DECADE, nor is material made radioactive during a test shot. The only radiation present is that produced during an actual shot, which lasts for only a fraction of a second.

Even though the facility is designed to simulate the effects of X-rays generated by nuclear explosions in outer space, these tests are safe thanks to the designers of the facility who included numerous safety features to eliminate potential hazards. An extensive electronic access control system operates all doors and entryways in the facility eliminating the potential for unauthorized access to the test area. Special 45-inch-thick walls and doors separate the test area from areas accessible by people during a test.

"This ensures all X-rays generated during a test are kept inside the test cell and test operators are shielded from potential hazard," **Mr. Lavell Whitehead**, Program Manager, said.

A smaller X-ray simulator, the Modular Bremstrahlung Simulator (MBS), provides similar test capabilities for smaller test articles such as cables used inside missiles or satellites. That test unit was brought on line in 1997 and is already in use. The MBS also uses charged capacitor banks to generate X-rays. However, it uses a nine-stage traveling wave process to

progressively increase the voltage through each of its nine sections. Although it works in the same manner as the large DECADE machine, the power generated and discharged is only a fraction of that produced by the machine.

The MBS was recently used for a Navy test. Members of the Nuclear Weapons Effect team at AEDC successfully tested cables used in a Navy missile system to ensure they could withstand radiation conditions they would be exposed to in a nuclear environment.

Working with AEDC on the DECADE program, the Defense Special Weapons Agency (DSWA) appointed **Mr. Mike Zmuda** as a special on-base liaison to coordinate systems integration management and to be part of the on-site management team. "DECADE is an excellent example of teamwork within the government," Mr. Zmuda said. "My permanent on-site appointment at Arnold Engineering Development Center is a by product of the 'win-win' partnership between the Defense Special Weapons Agency and the Center."

For more information about this article and AEDC, contact **Ms. Tina Barton** and **Ms. Darbie Sizemore**, AEDC Office of Public Affairs, Arnold AFB, TN 37389-2213. Telephone (615) 454-5586. E-mail: <http://www.arnold.af.mil>.

## Aberdeen Test Center Employees Receive US Army Test and Evaluation Command Professional Award

Seven Aberdeen Test Center employees, on January 14, 1998, were presented TECOM's Professional Award for exemplary performance at a special ceremony held in the Aberdeen Test Center's command conference room.

**Major General Edward L. Andrews**, Commander of Aberdeen Proving Ground and the Army's Test and Evaluation Command, presented awards to **Mr. William C. Frazer**, who was honored for outstanding efforts in testing and analyzing the automotive performance of the T-72 Soviet Main Battle Tank and other foreign exploitation; **Staff Sergeant Carlindean Hardy**, who was recognized for her outstanding administrative support to ATC and the Headquarters and Military Support Company; **Mr. Paul D. Hutchins**, who was recognized for extraordinary skill, professionalism, and dedication which contributed to the accomplishment of the mission requirements of the Experimental Fabrication Team; **Ms. Barbara L. Jones**, who was cited for outstanding support to the ATC headquarters team; **Ms. Rebecca C. Joy**, who was recognized for scientific expertise which resulted in the successful implementation of the National Target/Threat Signatures Data System at ATC; **Mr. William H. Taylor, Jr.**, who was recognized for his involvement in the ATC Reengineering Advisory Committee; and **Mr. Terrence J. Treanor**, who was cited for his management of the Halon Alternatives Engine Compartment Test.

Mr. Frazer wasn't only recognized for his efforts on the Soviet Main Battle Tank; but for test performance of the Mobile Detection Assessment Response System, the Heavy Equipment Recovery Combat Utility Lift and Evacuation System, and the Electric Vehicle M113 Baseline. Mr. Frazer said he was proud to receive the award. "I feel honored to receive this award. Maj. Gen. Andrews is very personable," he said.

database program. Mr. Taylor said he was surprised to get the award. "I'm happy to be selected for such an award."

Mr. Treanor's professionalism and expertise are reflected in areas such as test data precision and accuracy, automation, safety and concern for the environment. Mr. Treanor was proud to receive his award. "I'm very honored to win such a prestigious award."

Major General Andrews also recognized five ATC soldiers for their efforts on the Modern Burner Unit Program. **Sergeant Jesse M. Schmidt** was presented the Army Commendation Medal. The other four soldiers, **Sergeant First Class Dick Holbrook**, **Staff Sergeant Curtis J. Duke**, **Sergeant Michael L Perkins**, and **Sergeant Robert E. Stacy, Jr.**, have made a permanent change of station (PCS) and their awards have been forwarded to their new units. The soldiers worked together as a team on this complex, competition-sensitive test which required a close alliance with soldiers and civilians to assure that test milestones were accomplished accurately and on time. "We deserved the award," said Staff Sergeant Schmidt. "It's nice to be recognized for all of our hard work."



Major General Edward L. Andrews (far left), and Colonel Richard O. Bailer (far right), congratulate the ATC personnel honored at a recent TECOM ceremony. From left to right are MG Andrews, Mr. Terrence Treanor, Mr. William Taylor, Ms Rebecca C. Joy, SGT Jesse M. Schmidt, Mr. William Frazer, SSG Carlindean Hardy, Mr. Paul Hutchins, Ms Barbara Jones and COL Bailer. (Photo by Lena Goodman, PAO, ATC).

Despite constant changes and personnel shortages, Staff Sergeant Hardy always ensured soldiers' needs were handled promptly and professionally. Staff Sergeant Hardy said she's glad that her efforts were noticed. "All of the hard work I've done at ATC really paid off. I'm glad that my efforts were recognized."

Mr. Hutchins' was credited for his efforts toward construction of the Fire Safety Test Enclosure. The award took Mr. Hutchins by surprise. "I wasn't expecting an award," he said. "I'm glad that someone appreciates me for doing a good job."

Ms. Jones' outstanding protocol support left customers with a positive impression of ATC. Ms. Jones likewise was surprised and pleased to receive her award. "I'm grateful to whomever felt I was worthy of the award."

Ms. Joy combined technical innovation, leadership, and a desire to excel to ensure consistent high quality work in database system development. Ms. Joy said she's pleased to be recognized as one of TECOM's professionals. "It is an honor to be one of seven professionals recognized at ATC."

Mr. Taylor's expertise on the ATC Reengineering Advisory Committee led to a proposal to have all of ATC's resources and scheduling requests incorporated into a computer

**Colonel Richard O. Bailer**, Commander, Aberdeen Test Center, said, "ATC has great professionals who do great things for the Army. It's a credit to this organization that we have the type of people that TECOM recognizes."

The TECOM Professional Award is an honorary award that recognizes outstanding professional performance of assigned duties. It includes an engraved pewter key chain and a citation certificate that can only be presented by the Commander of TECOM.

For more information about the TECOM Professional Award and the Aberdeen Test Center contact **Ms. Lena Goodman**, ATC Public Affairs Office, Aberdeen Proving Ground, MD 21005-5059. Telephone (410) 278-4223 / Fax (410) 278-4046 [DSN 298-]. E-mail: Lgoodma@atc.army.mil.

## We train like we fight - Jointly!

### NAWCAD Patuxent River

### Supports JTFEX 98-1

Across the Eastern seaboard, from Virginia, to Florida and Puerto Rico, over 30,000 service members from all branches of the armed forces participated in Joint Task Force Exercise 98-1 (JTFEX 98-1) from mid-January to mid-February. The Army, Air Force, Navy and Coast Guard working together as one team practiced joint service

interoperability, under the command of Lieutenant General John M. Keane, US Army Commander of Fort Bragg, NC, and the Army's XVIII Airborne Corps. Rather than focusing on one specific service, combatant commanders are now capabilities-centered, leveraging off of the unique skills and capabilities individual services have to offer.

JTFEX 98-1 was a Category II joint field training conducted by the United States Army Forces Command (FORSCOM) tactical and operational components. The services were brought together in the field to practice their skills in a joint environment involving the ground, the air, and the sea. Rear Admiral Ralph E. Suggs, Commander of Carrier Group Six, out of Mayport, FL, led the maritime component. "This outstanding training exercise provided an opportunity to test the skills we'll need during upcoming deployments," RADM Suggs said. "We are America's 911 force, ready to respond when real world events dictate."

### *Pointy end of the spear*

St. Inigoes, MD residents were unaware that an invasion was being launched. An Army Special Operations Command Unit led by **Sergeant J. K. Nelson**, F Company, 51st Infantry, Ft. Bragg, NC, was preparing to infiltrate Webster Field, set up camp, and remain undetected for four days.

"We are the pointy end of the spear. Our guys collect intelligence and pass it back into a bigger structure to say 'this is this piece of the pie'. What they collect goes all the way back to a three star general. Communications are relayed back to Ft. Bragg, reporting on targets and other activities going on in the area," he said. His team does the jobs no one else will do. "It's one of the toughest jobs in the military," Nelson said.

"You never get used to the cold," said Nelson as the two rubber Zodiac boats slipped into the 42 degree cold water. One held the six man Support Team that took Nelson's six man infiltration team to the beach, and removed their boat. A support team of fifteen camped at the Coast Guard St. Inigoes Station, doing communication and intelligence surveillance. The infiltration team collected data on deep strike targets at Webster Field during the four day encampment. This cross cueing event provided three different intelligence sources on the targets - the Pioneer Unmanned Aerial Vehicles (UAVs), the Special Ops team surveillance, and radar tracking data. Information was relayed to Ft. Bragg using UAV real-time video transmission.

### *Coast Guard's key role*

The Coast Guard Station at St. Inigoes was prepared for the invasion. During the planning stages, a request was received for support during JTFEX 98-1. "This is not the first time we have supported an exercise, but it is the first time we have supported Ft. Bragg's special operations units," said **Senior Chief Howard Hathaway**, Officer in Charge of the US Coast Guard Station at St Inigoes, MD. The Coast Guard, focusing on safety, provided back-up to the Zodiac boats during the insertion, keeping the teams on radar and visually in sight using night vision technology. "We had equipment on

board to take care of any emergency, and the State Police Medivac unit was on stand-by," he explained.

Meanwhile, somewhere out on Webster Field, the special operations infiltration team set up camp in a ravine. The ensuing week of storms almost washed them out. The deployment was longer than usual, and by the end, they were very cold and wet.

The support team was given full use of the Coast Guard Station for the duration of the exercise, conducting internal training and supporting the team in the field. "By the end of the mission, the team in the field was really cold. They met their objective, and were very pleased with the support we provided," he said.



**Sergeant J. K. Nelson, F Company, 51<sup>st</sup> Infantry, US Army, Fort Bragg, NC, prepares to lead his infiltration team onto Webster Field, St. Inigoes, MD, during JTFEX 98-1.**  
(Photo by Heather Herod, NAWCAD)

Lieutenant General Keane was very impressed with the support. "They did one heck of a job. We were very happy to get the facility. Support and to that level, well, you don't see it that often," he said.

### *NAVAIR provides hi-tech support*

JTFEX 98-1 tested the forces on their ability to deploy rapidly, and to conduct joint operations during a crisis. The exercise also used many new innovations for command, control, communications, computers, and intelligence (C4I) to refine tactics, techniques and procedures during joint operations.

One of these new innovations provided mission planning and rehearsal support to the 1st and 3rd Special Forces Group at Camp Blanding, Florida. The 160th Special Operations Aviation Regiment (SOAR) at Ft. Campbell, KY sent a unit to Camp Blanding for the exercise. The Naval Air System Command's PMA 205's TOPSCENE Mission Rehearsal provided the opportunity to evaluate the benefit of three dimensional mission preview, planning and rehearsal for group Special Operations Forces missions. A three dimensional



database was constructed of the Ft. Bragg area and one of the Ft. Bragg Military Operations in the Urban Terrain Site in support of this effort. "Overall providing TOPSCENE support to the 1st and 3rd Special Forces Group was a success and several lessons were learned that will aid the 160th during their upcoming Synthetic Theater of War exercise," said **Major John F. Mabe**, USAF Action Officer, SOOP-TJ in an after action report. Additionally, the Deputy Commander general of the US Army Special Operations Command recommended that all participating teams look at the TOPSCENE database.



The 319<sup>th</sup> Air Refueling Wing from Grand Forks AFB, ND, led the refueling efforts for the JTFEX 98-1. Support for the 5 KC-135 tankers was based out of NAWCAD.  
(Photo by Heather Herod, NAWCAD)

### *NAWCAD Supports refueling effort*

The 319th Air Refueling Wing from Grand Forks Air Force Base in North Dakota returned to Patuxent River to lead the refueling efforts for the Atlantic carrier-based air wings. "These exercises give us good integration with the other services that we don't see on just a day-to-day training mission. This is an opportunity to work with the Navy and Marine receivers in addition to the Air Force receivers we usually support," said **Major John Watts**, USAF Detachment Commander, 319<sup>th</sup> Air Refueling Wing. "Without these exercises, the lead time for smooth operation flow is longer. The opportunity to participate in JTFEX gives us the edge in the real scenario -- an added advantage."

Under Major Watts' command, the wing flew over 20 refueling sorties. Five KC-135 Air Force tankers were used. "They had maximum use, and no major problems," Watts said. Watts' detachment contained 79 personnel, with additional support provided by Dover Air Force Base, DE.

The initial JTFEX 98-1 was larger. Actually 30 sorties were planned, but weather canceled three of the jets. One of the carriers withdrew, and the exercise shrunk considerably. A mini-conference at Ft. Bragg the week prior to the exercise restructured the air war based on the loss of the air power from the carrier.

"The Pax River support was excellent," said Major Watts. "They provided us the facilities to operate out of, the information to restructure our mission, life support,

maintenance, communication -- we were all tied together with radio contact. It really worked great," he concluded.

### *Sum greater than parts*

Joint task force commanders synchronize the actions of air, land, sea, and special operations forces to achieve strategic and operational objectives through integrated joint campaigns and major operations. The goal is to increase the total effectiveness of the joint force, not necessarily to involve all forces or to involve all forces equally. However; all components, no matter how small their participation may be, contribute to the overall success of the exercise.

JTFEX 98-1 was a significant expansion of the Naval Air Warfare Center Aircraft Division role, including the involvement of the St. Inigoes Coast Guard Station, and the technology support through mission rehearsal, target tracking using UAVs, and radar. NAWCAD will continue to explore ways to expand support to the fleet and joint forces in upcoming exercises.

For more information about this article and NAWCAD, contact **Ms. Heather Hunter Herod**, Business Development Office, NAWCAD, Patuxent River, MD 20670-5304. Telephone (301) 342-1135/Fax (301) 342-1134 [DSN 326]. Herod\_Heather%PAX7@MR.NAWCAD.NAVY.MIL.



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